

**Comprehensive Transportation
Plan for Jamestown 2007**

**executive
summary**

prepared for

**Virginia Department of Rail and
Public Transportation**

prepared by

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with

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June 2001

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1.0 Recommendations

■ 1.1 Introduction

Jamestown 2007 is planned to be a collection of more than 100 events, major and small, that will commemorate the establishment of the first permanent English settlement in North America on the shores of the James River in 1607. These events are anticipated to take place between the fall of 2006 and the spring of 2008 across the Commonwealth of Virginia. The vast majority of these activities are likely to be relatively small in size and localized in scope. Most events that are planned to take place in the Historic Triangle (Jamestown-Williamsburg-Yorktown) area will likely create somewhat busier than average peak visitation levels. The following pages present a description of the recommendations to serve the transportation and logistics needs of these events.

This plan anticipates that there will be approximately three major events, and that these will take place at separate times during the spring and fall of 2007. It has been further assumed that these major events will take place only on weekends, one on May 13, 2007, and the other two between May and October 2007. These events are assumed to draw approximately 30,000 spectators each to either Jamestown Island, managed cooperatively by the National Park Service (NPS) and the Association for the Preservation of Virginia Antiquities (APVA), or the nearby Jamestown Settlement, which is managed by the Commonwealth of Virginia's Jamestown-Yorktown Foundation.

Currently, event planners expect that a number of mid-sized and small events will occur throughout the commemorative year on Park Service or Jamestown-Yorktown Foundation property. The timing and magnitude of these events has yet to be determined. This plan distinguishes between *mid-sized* events, which may attract 4,000 to 13,000 people, and *small* events, which may attract up to 4,000 visitors.

The recommendations presented here provide order-of-magnitude estimates of the infrastructure and services required to serve the transportation demands generated by the commemorative events planned for 2007 at the Island and the Settlement. These concepts can be used as the basis for more detailed operational studies, feasibility assessments, and cost estimates that will follow this study.

These recommendations are based on a review of existing traffic data, supplemented by capacity analyses of roadways leading to the venue areas. The recommendations are also based on the conservative assumption that the events will occur with a definite start and end time, which will create a peak-of-traffic demand one hour before and one hour after most events. Our analysis indicates that the roadway system leading to the Island/Settlement area has sufficient capacity to accommodate an event attracting up to roughly 13,000 visitors, under existing patterns of automobile and transit use. In order to accommodate events attracting more than 4,000 visitors, however, additional parking near

the commemorative sites must be provided, and a significant proportion of the visitors must use tour buses and shuttle buses to arrive at the commemorative venues. Events attracting more than 13,000 visitors will require more aggressive measures to avoid significant delays to visitors arriving and departing the site.

The actions recommended here are intended to ensure that visitors to the Historic Triangle area in 2007 enjoy their stay and have a memorable experience. The quadricentennial commemoration, Jamestown 2007, offers an opportunity to leave a lasting impression of the greater Jamestown area as a “must-visit” attraction and strengthen the region’s position as one of the premier tourist destinations in the nation. It also presents a unique opportunity to establish a legacy of good planning and travel demand management.

Background

The recommendations presented in this plan reflect careful consideration of the opportunities and challenges presented by the existing transportation system. These issues and opportunities are described below.

Highway Capacity

In general, there appears to be ample highway access leading to the Historic Triangle area. Several parallel routes such as I-64 and U.S. Route 60 follow the northwest-southeast orientation of the peninsula. Additional regional access routes include U.S. Route 17, U.S. Route 258, and U.S. Route 460. Within the immediate area, State Route 199 and the Colonial Parkway are partially access-controlled and provide the fastest access to points south beyond Williamsburg.

However, access to Jamestown Island itself and the nearby Jamestown Settlement is limited to only a few two-lane roadways – State Route 5, State Route 31, and the Colonial Parkway. No significant roadway capacity improvements are currently planned for these facilities. Moreover, there is not enough time to undertake the detailed planning, design, environmental analyses, capital programming, right-of-way acquisition, and construction that would be necessary to upgrade these access routes prior to 2007. And while intersection improvements are planned for the intersection of Route 199 and SR31, significant peak hour congestion is likely to occur simply because of regional background traffic growth.

Limited-Venue Parking Capacity

Both Jamestown Settlement and the Jamestown Island Visitor Center plan to reconfigure and augment their existing parking facilities over the next three to five years. However, even with these improvements, it is expected that a total of only about 1,200 permanent and temporary parking spaces may be available at these locations in 2007. This is a small fraction of the approximately 10,000 parking spaces that would be needed, for example, to accommodate a 30,000-person event, if an average of three persons per vehicle was assumed for those persons projected to arrive by automobile.

There is an inadequate supply of on-site parking to accommodate the projected demands of a major event if even a sizable minority of visitors arrive by automobile. In order to accommodate the transportation demands of any major event, it will be necessary to intercept the vast majority of arriving visitors some distance from the event venues and accommodate their access to Jamestown Island and/or Jamestown Settlement by some form of public transportation service.

Based on currently available information about parking resources at the Island/Settlement, enough parking is available to accommodate most of the automobile demand generated by events attracting up to 4,000 visitors at any one time. Events attracting more than 4,000 persons will require additional parking space. Public and privately-owned vacant and redevelopable parcels in the immediate vicinity of the event areas, if available for use, could supply the additional land.

Separation of Local and Visitor Traffic

The surface street system in the city of Williamsburg, especially along routes leading to or from the Colonial Williamsburg area, is difficult to negotiate for visitors new to the area. Short city blocks with many decision points, confusing/inadequate signage on curvilinear arterial streets and high numbers of pedestrian/vehicle conflicts in the core area all contribute to this difficulty. In order to maximize safety, and reduce congestion for local traffic during the peak event periods, reducing visitors' reliance on auto travel for internal circulation is highly desirable. For these same reasons, intercepting visitor traffic as soon as possible once it has arrived in the Historic Triangle area is highly desirable.

The recommendations in this plan reflect the following objectives:

1. Minimize the congestion impacts of the anticipated events on the regional highway system;
2. Maximize the convenience, safety, and reliability of alternative transportation services for a relaxed and pleasurable visitor experience; and
3. Minimize impacts to the local community by physically separating visitor from local traffic as much as possible.

■ 1.2 Description of Transportation Plan Elements

The following pages describe the principal elements of the recommended Jamestown 2007 Transportation Plan. Section 1.3 presents the organizational and management recommendations associated with the implementation of the transportation plan, while Section 1.4 presents preliminary cost estimates of the transportation plan elements. Finally, Section 1.5 presents an outline of the next steps required in the detailed event and venue planning process.

The recommended transportation plan consists of the following basic elements:

- Highway Improvements;
- Park-and-Ride Facilities;
- Local Transit and Ferry Services; and
- Intercity Transit Services.

Transportation recommendations for the year-long commemoration are described first, followed by recommendations for major, mid-sized, and small events. Major events are described as those attracting between 13,000 and 30,000 visitors, mid-sized events between 4,000 and 13,000 visitors, and small events are those attracting fewer than 4,000 visitors.

Recommendations – Background Transportation System

Highway Recommendations

The highway recommendations are relatively modest, and do not anticipate that any significant roadway capacity improvements beyond those currently programmed to be implemented by 2006 will be available to support the Jamestown 2007 commemorative activities.

I-64

Current plans by VDOT propose the widening of I-64 over the next three to four years from two lanes in each direction to four lanes in each direction from the James City County/city of Williamsburg line south through the city of Newport News. Conversely, no widening is currently programmed for I-64 from Richmond south into James City County by 2007. A still unresolved design issue for the portions of I-64 to the north and south of Williamsburg is the debate over the potential use of the median area for the construction of the additional travel lanes. With respect to I-64, the Jamestown 2007 Transportation Plan recommends the following actions:

- Do not continue the widening and reconstruction of I-64 south of Williamsburg beyond the Mercury Boulevard interchange if additional sections cannot be completed prior to 2007.
- If construction is ongoing by 2007, remove all barriers and construction equipment, and halt construction operations to eliminate safety hazards and unnecessary capacity restrictions on I-64.
- Continue with detailed planning and design studies for the widening of the section of I-64 from the Williamsburg area north to I-295 in Richmond, but do not initiate construction in this area until after 2007. Given the likelihood of significantly increased visitation to the area in 2007, the presence of major construction activities could contribute to congestion and delay in the corridor.

U.S. Route 17 and U.S. Route 60

Relatively modest improvements to these corridors are anticipated over the next five to seven years. For the most part, these proposals consist of intersection upgrades in the city of Williamsburg and adjacent areas of James City and York Counties. These improvements should be implemented with all deliberate speed to ensure that construction is completed prior to 2007.

State Route 199

State Route 199 is an integral component of the Jamestown 2007 transportation system. For this system, the roadway functions as a bypass route around downtown Williamsburg that can facilitate the separation of local and visitor traffic. Current plans call for the widening of the existing two-lane sections of Route 199 to a four-lane cross section from the Colonial Parkway to the U.S. Route 60/Route 199 interchange on the south side over the next two to three years.

Considerable debate has followed proposals to improve the intersection of State Route 199 and State Route 31 (Jamestown Road). According to recent studies, proposed at-grade improvements would improve conditions temporarily, but fail to reduce congestion enough to prevent significant weekday queuing and delays by 2007. The Jamestown 2007 Transportation Plan recommendations for Route 199 are as follows:

- Ensure that the programmed roadway widening of SR199 is completed prior to 2007.
- Plan, design, and construct at-grade capacity improvements for the SR199/SR31 intersection by 2007. The James City County Board of Supervisors and Williamsburg City Council has approved a preferred design for this intersection. The Board and Council's position is that preliminary design should proceed quickly to allow for construction to move forward and be completed by 2007.

Transit Recommendations

The Jamestown-Yorktown Foundation anticipates nearly a doubling in the number of visitors who currently visit the Jamestown Settlement in 2007. There should be a higher than average level of visitation to all attractions in the Historic Triangle by 2007, and transit services should be increased to meet this demand.

Jamestown 400th Shuttle System

It is anticipated that there will be approximately 1,200 permanent and temporary parking spaces distributed across Jamestown Island, Neck of Land, the Jamestown Island Glass House, and the Jamestown Settlement for 2007. In order to use these resources, shuttle buses transporting visitors from their parking spaces to event venues will be necessary. The number, routing, and type of vehicles needed for the shuttle operations can be ascertained once parking designs for the Island and Settlement are finalized.

Colonial Parkway Shuttle

The Parkway shuttle would serve visitors at Colonial Williamsburg properties, and operate along the Parkway between Williamsburg, the Settlement, and Jamestown Island. Two or three permanent shuttles could provide adequate support for the generally higher levels of “everyday” visitation anticipated for 2007. The Jamestown-Yorktown Shuttle is mentioned both in the James City County Long-Range Plan and the National Park Service Alternative Transportation System (ATS) Plan. While the county plan recommends a total of three buses in operation by 2007, the ATS plan calls for seven buses, operating at up to 15-minute frequencies. Seven buses should suffice for background conditions and small events.

Route 60 Shuttles

The James City County Long-Range Plan calls for two separate routes operating along U.S. 60 by FY2003, one each on the north and south ends. These shuttles would effectively replace the “Relax and Ride” service. Between one and four buses would be operated in peak service at 15-minute frequencies. These buses would serve visitors staying at one of the hotels along this corridor, providing connections to the Parkway shuttle via the Colonial Williamsburg Visitor Center. An additional bus for each route would provide more capacity for the background influx of visitors anticipated in 2007 by increasing frequencies to 10 minutes or less during periods of peak demand, and provide bus operators with more flexibility to respond to unanticipated demands in that corridor or other corridors.

Transportation Center Shuttle

This service would serve visitors for charter buses and event-day train service arriving at the proposed city of Williamsburg Transportation Center. The frequency of service would conform to the bus and train arrival and departure schedule. This service would provide a direct, smooth connection between the intercity travel modes and the shuttle service. Under current assumptions, it is estimated that about five buses would be required for this service. It is currently anticipated that existing resources will suffice to meet background service needs.

Bus Management and Operation

Hampton Roads Transit (HRT) is the largest transit provider in the tidewater region. They have operated shuttle bus services for special events throughout the peninsula area for many years. During OpSail 2000, for example, HRT provided management and operations manpower for all of the shuttle bus services operating out of the park and ride lot locations throughout the five-city area. Their presence in the planning, management, and operation of peak event bus services for Jamestown 2007 would be a significant asset to the effort. Close coordination with James City Transit and Colonial Williamsburg, the two principal transit providers in the Williamsburg area, will be essential as well.

The James City County long-range transit plan calls for the creation of a new management transit authority and consolidated services to serve the growing mobility needs of the Historic Triangle area. That entity would be a logical source of coordination for the planning and operating bus service for Jamestown 2007.

- Consider leasing maintenance facility space and maintenance staff to service buses for Jamestown 2007 major events.

Automated bus dispatching and routing systems are on the horizon of the most forward-thinking transit systems in the world. Such systems, which have been implemented in Europe, promise a truly seamless, customer-focused transit system. These systems allow travelers to reserve a trip via computer with a single fare at a guaranteed time, much like a taxi trip, regardless of the number of transfers or transit agencies involved. Visitor travel is an ideal market for such a demand-responsive system. James City County and Hampton Roads Transit might consider initiating a study to assess the feasibility of such a system in advance of 2007.

Bus Maintenance

Colonial Williamsburg will have a new bus maintenance facility in place by 2007. This facility could be used to service Jamestown 2007 buses during the peak demand periods as well as throughout the year.

Fares

In order to maximize convenience and efficiency, no bus fares should be collected on board for peak event bus services. If the appropriate level of sponsorship, and possibly federal sponsorship, can be secured, providing these services free of charge would maximize ridership. If fares must be collected, bus pass sales kiosks should be established at convenient locations.

Ferry Service

VDOT operates regularly scheduled passenger and vehicle ferry service in the State Route 31 corridor across the James River between Scotland in Surry County and Jamestown. According to VDOT staff, up to four ferries can be operated simultaneously.

The Jamestown 2007 Transportation Plan recommends that this maximum potential level of service be operated during peak events. It is further recommended that an expanded park and ride facility be implemented in the Route 31 corridor between the town of Surry and the ferry landing at Scotland. During peak periods of demand, visitors will board shuttle buses that would transport them via the ferry to Jamestown, and then drop them off at either the Settlement or Jamestown Island. This service should remain free of charge as it is currently.

Parking

CW Visitor Center. The visitors' center parking lot at Colonial Williamsburg should be a transfer point for bus travel to Jamestown and Yorktown. This lot and the attendant CW Visitor Center, which is being expanded and reconfigured as part of a larger expansion effort by CW, will ultimately provide parking space for approximately 80 tour buses and 2,000 automobiles. The use of this lot as a park-and-ride/transfer point will provide the opportunity to operate a direct transit service connection between the two most popular visitor destinations in the historic triangle during the commemorative period. This facility will also be able to serve regional traffic that has not been intercepted at the I-64/Route 199 park and ride lots north and south of Williamsburg.

- Coordinate closely with Colonial Williamsburg to establish their willingness to assist in the provision of parking to serve mid-sized and major events for Jamestown 2007.

Parking for Local Residents. This plan recommends the establishment of several park and ride lots to serve visitors from outside the region, as well as local residents. Other locations conveniently accessible to the recommended shuttle services may be available as well, such as parking at commercial centers and public parks near Route 199.

- Establish convenient park and ride locations for local residents.

Bicycle Element

Biking is considered one of the many recreational pursuits to enjoy in the Historic Triangle and is a viable mode of transportation for William and Mary students. This plan recommends the completion of several critical links in the regional bikeway system plan:

- Complete the Capitol to Capitol bikeway, from the James River to Jamestown;
- Complete the Ironbound Road bikeway from Mid County Park to Clara Byrd Baker Elementary School; and
- Complete the Ironbound Road/Sandy Bay Road bikeway, from the Clara Byrd Baker Elementary School to SR31 (Jamestown Road).

Traveler Information

An important element of the overall visitor transportation plan for Jamestown 2007 is the provision of traveler information. A well-conceived traveler information "system" will provide clear, unified, and unambiguous information on available travel options before the trip is made and available route and modal options while travelers are en-route. This is an indispensable component of a pleasurable visitor "experience."

The Hampton Roads Smart Traffic Center uses a variety of video cameras and pavement sensors to monitor traffic speed and volume and to identify the location of accidents and other incidents resulting in congestion. The Hampton Roads regional Traffic Management System (TMS) is continuing to expand its area of coverage onto the Peninsula, with

additional static and variable message signs to be placed along the I-64 corridor over the next three to five years. The current Highway Advisory Radio message system will also be expanded in coming years.

Visitors' travel choices can be influenced before they depart for the Historic Triangle area, via radio, television, and the Internet. Once in the Historic Triangle, visitors can be informed of available transit services and parking resources.

- Install permanent and temporary variable message signs as appropriate to guide visitors to commemorative venues through routes least likely to adversely impact the local community and create unacceptable levels of congestion.
- Inform visitors of their travel options, and about travel restrictions and recommended routes, through an information campaign, using electronic and other media. This should include a single source of web-based information for travel to and around the Jamestown area.
- Develop a traveler information plan, detailing how visitors will receive information about travel options before they depart for their visit to the Historic Triangle, and detailing how they will receive information once they arrive in the area.

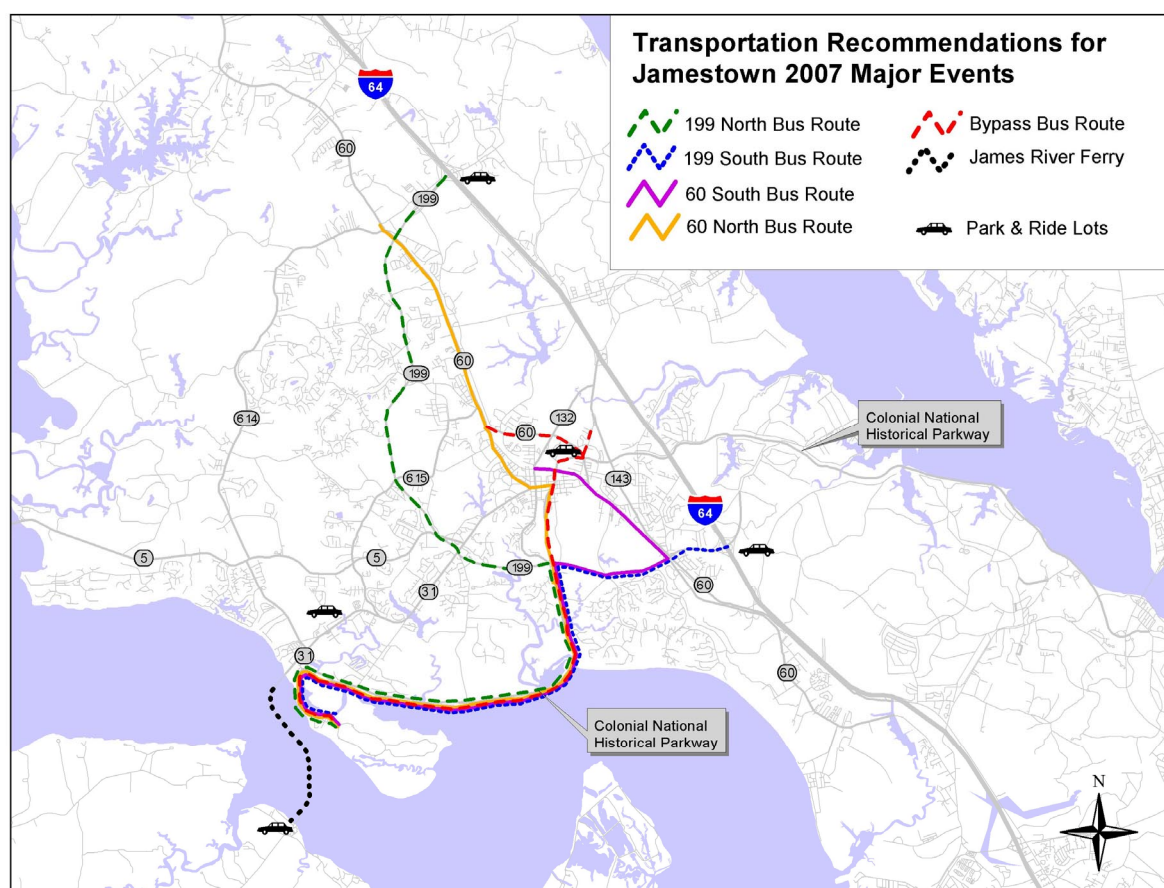
Recommendations – Major Events

Major events attracting between 13,000 and 30,000 (or more) people will place significant demands on the transportation system. There is insufficient highway capacity to allow all visitors to arrive by automobile. The principal recommendations for major events are to:

1. Restrict auto access to the Island/Settlement;
2. Establish a system of hotel shuttle buses and intercept park and ride services to transport visitors to the venue locations; and
3. Establish regional intercept park-and-ride lots linked to Jamestown Island and the Jamestown Settlement by a group of high-frequency shuttle bus services.

Figure 1.1 depicts the principal transportation recommendations to accommodate the visitor travel demands associated with major events at Jamestown Island and the Jamestown Settlement. As shown on Figure 1.1, these proposed transportation elements are very similar in general concept to the successful visitor transportation program operated during the OpSail 2000 visit to the Hampton Roads region in June 2000.

Figure 1.1 Transportation Recommendations for Major Events



Colonial Parkway

The Jamestown 2007 Transportation Plan recommends dedicating Colonial Parkway as a **bus only** facility during the major events at Jamestown Island and the Jamestown Settlement. This will minimize potential conflicts between automobile and bus movements, and maximize the efficient operation of the shuttle bus services. This recommendation will require the consent of the NPS for this designation, and a detailed operational analysis for implementation.

Parking

This plan proposes the establishment of several large, temporary parking lots at each of the SR199/I-64 interchanges. Under current assumptions for a 30,000-person attendance, major event, there appears to be sufficient demand for approximately 2,000 parking spaces at each location. It is anticipated that the majority of the visitors not using the intercept park and ride lots would depart from hotels in the vicinity, or use the Colonial Parkway shuttle from Colonial Williamsburg Visitor Center.

SR199/I-64 North. There is an existing VDOT operated park and ride lot near the Route 199/Route 60 interchange, which can accommodate approximately 100 vehicles. Additional parking space could be established through a leasing agreement on unused farmland near the existing park and ride lot. Other opportunities should be explored as well, such as the use of existing lots on commercial developments in the area or the Bruton High School property near the I-64/Route 199 interchange and the York River State Park.

SR199/I-64 South. The Virginia Department of Transportation owns approximately 40 acres of land once used as a roadway construction “borrow pit” near the interchange. At a minimum, this land would require grading and surfacing for use as a park and ride lot for use during peak events and/or throughout the year. This land should be evaluated for its suitability as a park and ride lot from an engineering and environmental perspective.

Other possibilities, such as the temporary use of parking lots on commercial land in this area such as the Busch Industrial Park, the Busch Gardens Amusement Park, and Water Country USA, should be examined as well. These parking facilities may be available during fall and early spring weekends, but would not likely be available for use during summer months.

Jamestown Settlement/Jamestown Island. This plan further recommends *limiting automobile parking to VIP and emergency vehicles at the Settlement and on Jamestown Island during peak events*. This will help to minimize roadway congestion and ensure the most efficient use of available roadway capacity through effectively dedicating the roadway space to bus service.

Transit Services

This plan recommends a system of shuttle buses and park and ride buses to serve the peak event demands in May and October 2007. These services would operate at high frequencies during the three hours leading up to and following the events, and at reduced frequencies during off-peak periods. All buses in this plan would operate as express buses on the Colonial Parkway after picking up their passengers. These routes are designed so that passengers reach the Settlement and Island as conveniently as possible, requiring no transfers and a minimum of walking and waiting time.

For major events with high-frequency bus services, establishing a safe and efficient staging area at the Settlement for drop-off and pick-up of passengers will be difficult. This is because of the limited space available to allow large numbers of buses to stack behind one another as passengers load and unload. *Further study will be required to determine the optimal configuration for bus staging at the Settlement.* A configuration that allows buses to complete their movements in one continuous circuit on and off of the Colonial Parkway is preferable to one that does not.

The recommended drop-off and pick-up point for the shuttle buses serving activities on Jamestown Island proper would be the reconfigured parking area for the NPS visitor center. A secondary pick-up/drop-off point for these buses could be the proposed Neck of Land parking area that would be located in the vicinity of the existing NPS maintenance facility.

The individual elements of the shuttle bus system plan are as follows:

Williamsburg Area Hotel Shuttles

The three hotel corridor shuttles would operate as a “super” Relax and Ride service during major events. Regularly scheduled service would operate in the off-peak hours.

- *Route 60 North.* This shuttle operates from Williamsburg Pottery to Jamestown via U.S. Route 60 and the Colonial Parkway. Roughly 30 buses would circulate on this route in the peak hours. This service would serve approximately 3,000 hotel rooms along this corridor.
- *Route 60 South.* This shuttle operates from the vicinity of SR31/Lafayette Street to Kingsmill and the Colonial Parkway. Based on current assumptions, 28 buses would circulate on this route in the peak hour. This service would serve approximately 2,200 hotel rooms along this corridor.
- *Bypass Road.* This shuttle would circulate between Capital Landing Road and Merrimac Trail to the Colonial Parkway, and serve approximately 2,900 hotel rooms. The total number of buses needed for this route under current assumptions is 25.

Park and Ride Shuttle

- Two express bus routes would operate from the proposed park and ride lots to be located at the north and south interchanges of Route 199 and I-64. These buses would carry their passengers in closed door service from Route 199 to the Colonial Parkway, and then via the Parkway to the Settlement and Jamestown Island. Under current assumptions, the northern and southern routes would require approximately 50 and 60 buses, respectively.

Regional Bus Services

- Regional express shuttle bus service would provide convenient connections between the Richmond and Norfolk areas and the Historic Triangle area. These buses would make connections with the park and ride shuttles, and operate at a frequency of approximately once every 20 minutes in the peak hour. Assuming an approximate two-hour round trip time from Richmond to Williamsburg and from Norfolk to Williamsburg, approximately six buses would be required for each of these two regional service routes. These buses would serve residents as well as large groups of visitors, such as the National Association of County Officials, which has already made hotel reservations in Richmond for 2007.

Summary of Peak Vehicle Requirements

Table 1.1 presents a summary of the peak vehicle requirements associated with the recommended Jamestown 2007 major event transit services.

**Table 1.1 Vehicle Requirements – Jamestown 2007 Peak Event Bus System
Transit Routes (30,000-person event)**

Route	Description	No. of Peak Buses
Hotel Corridor North	Direct service from northern end of U.S. 60 north to Jamestown Island via Colonial Parkway	35
Hotel Corridor South	Direct service from southern end of U.S. 60 corridor to Jamestown Island via Colonial Parkway	30
Hotel Corridor Bypass Road	Direct service from Bypass Road corridor to Jamestown Island via Colonial Parkway	30
Rt. 199 Connector North	Direct service to Jamestown Island from temporary Park and Ride lot near existing lot at Rochambeau Blvd.	55
Rt. 199 Connector South	Direct service to Jamestown Island from temporary Park and Ride lot near existing lot at Rochambeau Blvd.	65
CW-Jamestown Connector	Colonial Williamsburg to Jamestown Island	15
Regional Bus Services	Richmond to Colonial Williamsburg	6
	Norfolk to Colonial Williamsburg	6
Transportation Center Shuttle	City of Williamsburg Transportation to Jamestown Island and Jamestown Settlement	8
Total Peak Hour Vehicle Requirement		250

Bus Procurement

Given the assumption that 95 percent of all major event visitors will need to be transported by bus, it is estimated that up to 250 buses may be required to accommodate the peak demand at the major Jamestown 2007 events. Our preliminary survey of regional transit resources in the corridor between Richmond and Hampton Roads indicates that a sufficient number of buses should be available for leasing from local public and private sources if mutually acceptable terms on bus leasing can be crafted. However, this conclusion that sufficient resources should be available is predicated upon the assumption that all peak events will take place on weekends when normal bus services are curtailed and maximum spare capacity is available. If any major events are scheduled during weekdays in the spring or fall months, it may be very difficult, if not impossible, to obtain the required number of buses from the adjacent region.

Passenger Rail Service

Hampton Roads Transit has recently completed a Major Investment Study (MIS) for the CSX rail corridor from Newport News to Williamsburg, and will shortly be initiating a formal preliminary engineering/draft environmental impact statement (PE/DEIS) study of this corridor.

The Jamestown 2007 Transportation Plan supports the CSX corridor study and the concept of providing passenger rail service between the Newport News area of Hampton Roads and Williamsburg. It is unlikely that this study and the subsequent preliminary engineering, final design, construction, and capital procurement, activities could be completed in time for a light rail transit line to serve Jamestown 2007.

Expanded intercity passenger rail service along *existing rail lines* should be included in the overall transit service plan for 2007. This service should include:

- Increased frequencies on the Washington to Richmond service;
- Increased frequencies for service from Richmond to Williamsburg; and
- Increased service frequency for rail service from Newport News to Williamsburg.

Past studies have indicated that frequencies as high as eight trains per day are possible on additional trackage. The tracks between Washington and Williamsburg, and beyond to Newport News, are shared by Amtrak and CSX freight operations. In order to attain higher service frequencies for passenger service, some CSX freight service may require rescheduling.

- Consultation with CSX and AMTRAK should commence as soon as possible to ascertain the feasibility of providing an increased frequency of passenger service.

Description of Transportation Plan Elements – Mid-Sized Events

Events attracting between 4,000 and 13,000 persons may not require the high degree of transit service nor the proscription against auto access to the Island and Settlement required of major events. Demands on the highway system leading to the event venues and parking demands will be considerably less. The plan for mid-sized events retains ample transit services, but anticipates that some or most visitors will arrive by automobile.

The mid-sized events are likely to occur during all times of the year. Therefore, the recommendations for mid-sized events recognize that if events occur on weekdays or during the school year, fewer public agency buses will be available for leasing. The events are also equally likely to be planned as “peak” events with a definite start and end point as they are to be a continuous set of activities spread throughout the day. These recommendations assume that a “peak” event will create the greatest transportation system demands just before and after the event takes place.

To serve the transportation needs of a mid-sized event, this plan recommends:

1. The development of additional temporary parking spaces near the Island/Settlement area;
2. A traveler information “system” that guides visitors to the Island away from the Route 31/199 intersection; and
3. A local and regional shuttle bus system operating at low to moderate frequencies.

These recommendations are shown in Figure 1.2 and are described below. For clarity, the shuttle buses depicted in the major event figure are not included, but are recommended as part of the plan.

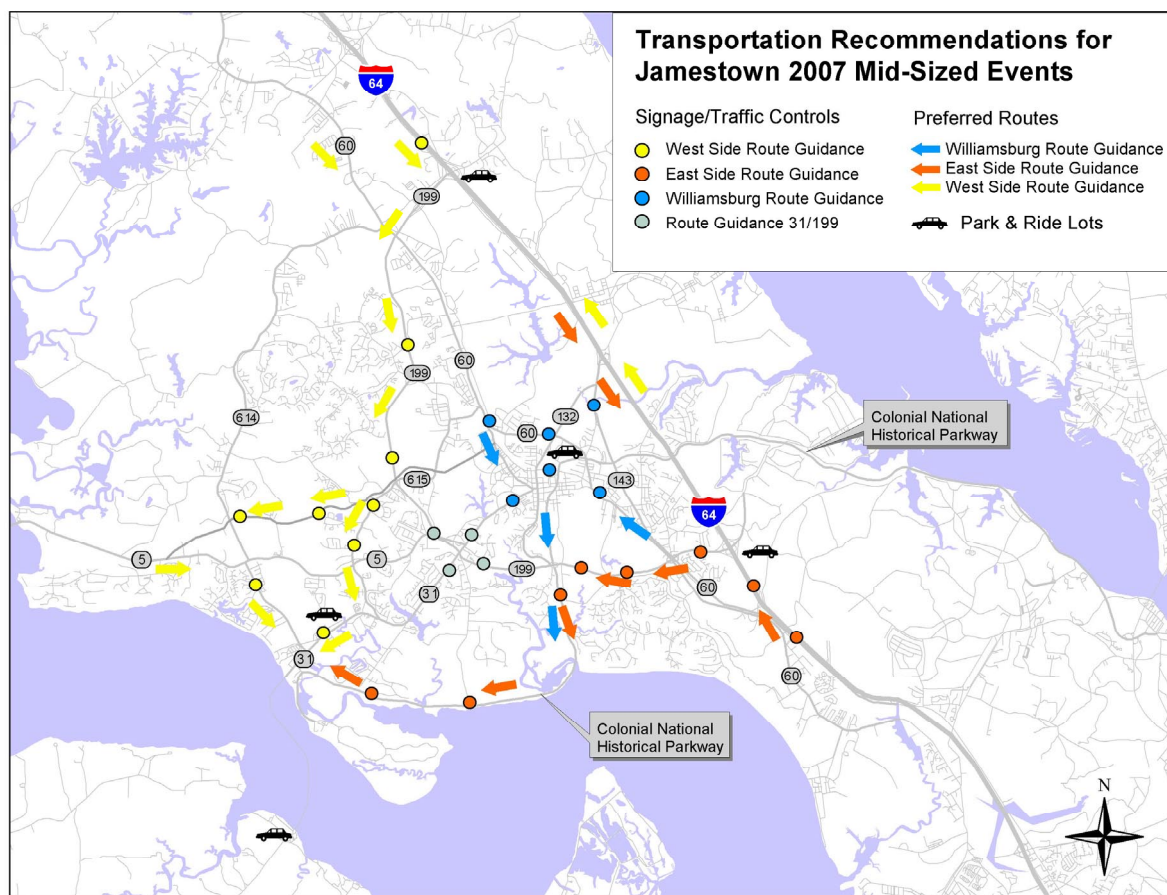
Highway Recommendations

Auto access to the Island and Settlement for mid-sized events can be accomplished through careful management of vehicular circulation in the area. One objective of these highway recommendations is to limit the congestion impacts of these events to Jamestown Road and the Jamestown Road/SR199 intersection. This requires the deployment of a traveler information “system” to encourage visitors to use designated alternative routes. The degree of “management” required depends on the size of the event. Events at the smaller end of the (mid-sized) spectrum will not require the routing of all traffic away from Jamestown Road, while traffic for major events should be managed more aggressively.

The preferred alternative routes are:

- Guide eastbound visitors on I-64 to exit at Route 199, and proceed to the Monticello Avenue interchange. After exiting at westbound Monticello Avenue, visitors would be directed to Greensprings Road via a short segment of Route 5 or to Jamestown Road (Route 31) via Ironbound Road (Route 615) and Sandy Bay Road (Route 681). The Sandy Bay Road route may be preferable to the Monticello/Greensprings Road route because it is more direct and presents fewer potential traffic conflicts for travelers.
- Guide eastbound visitors on Route 5 to Greensprings Road and the additional parking facilities located on public or private property near the event venues.
- Direct westbound visitors on I-64 to the Island/Settlement area via the Route 199 east interchange, and the Colonial National Historical Parkway.
- Route westbound visitors on U.S. Route 60, SR143, and other routes east of Jamestown Road and within the city of Williamsburg to the Island/Settlement via the Colonial National Historical Parkway.
- Restrict through movements at the Route 199/31 intersection from the north to local traffic.

Figure 1.2 Transportation Recommendations for Mid-Sized Events



Parking

Current plans call for the Settlement and National Park Service Properties to provide roughly 1,200 permanent and temporary automobile parking spaces for all events. Currently, the National Park Service is considering options for a reconfigured Visitor Center at Jamestown Island. Included in that study is a consideration of parking needs. One option calls for parking spaces to be constructed at the Island Visitor Center, Glasshouse Point and Neck of Land. The Jamestown-Yorktown Foundation is also reconfiguring its parking lot to increase safety and operational efficiency.

In order to serve peak parking needs generated by events attracting more than 4,000 persons, space for additional parking must be created, if auto access is to be permitted. Assuming that 25 percent of visitors arrive by bus, a 13,000-person event would require 2,050 additional parking spaces. There are several private and public land parcels in the immediate vicinity that could be used for parking on a temporary basis. Land that is currently used for farming would need to be protected against soil compaction. In Salt Lake

City, the topsoil from fields used as temporary parking lots will be scraped away and replaced with gravel. At the conclusion of the Winter Olympics, the gravel will be hauled away, and the topsoil returned in its place.

- Initiate a search for land that can be used for overflow parking to serve parking demands for small and mid-sized events during 2007. Mainland Farm, a large parcel of actively-farmed land in close proximity to the Settlement, should be investigated for its suitability as temporary parking site. Other privately-owned parcels in the vicinity should be explored as well.
- Investigate the suitability of the Jamestown High and Clara Byrd Baker Elementary School parking lots for temporary parking during the summer season and on week-ends. Both these sites are relatively close to the Settlement/Island area. The high school and elementary school have 402 and 100 parking spaces, respectively.

Transit Recommendations

For the mid-sized events a system of shuttle buses will be required to transport visitors from most of the available parking spaces to the commemorative event venues. Additionally, the interior shuttle services recommended for the major events should be provided for the mid-sized events, but at relatively low frequencies.

- Provide buses to shuttle visitors between interior parking lots and event venues. Interior parking locations may include the Jamestown Island Visitor Center, Neck of Land, Glasshouse, the Jamestown Settlement and additional parking facilities whose locations are to be determined. These buses would operate on a continual basis before and after the events and at less regular intervals during the events.
- Provide shuttle bus service from the Hotel Corridors and the Williamsburg Visitor Center and the Williamsburg train station. The frequency of service depends on the specifics of the event, but may range from five to 20 minutes.
- Serve larger events in this range (10,000 to 13,000 persons) with the hotel and park and ride intercept shuttle system described for major events. Buses running at 15-minute frequencies should provide adequate service.

Recommendations – Small Events

Events attracting not more than 4,000 people will create relatively minor impacts to the Historic Triangle's transportation system if demands are properly managed. Small events are defined as those requiring few if any additional parking resources other than those currently planned for the venues. While the provision of the intercept park and ride lots and their shuttle services would be beneficial, they are not necessary to avoid excessive congestion, unless other significant events in the immediate area coincide with these small events.

This plan recommends the following transportation actions for these events:

1. Develop a route guidance and signage system that encourages visitors to circumvent the Route 31/199 intersection. To the east, Route 199 and the Colonial Parkway should be the preferred means of access. To the west, Monticello Avenue, Ironbound, and Sandy Bay Roads should be the primary access routes to the venues.
2. Implement and operate the Colonial Parkway shuttle bus service at 15-minute intervals between Colonial Williamsburg, Jamestown, and Yorktown.
3. Implement and operate expanded service on U.S. 60 north/south at 10- to 15-minute intervals or less during periods of peak demand. Provide an additional two buses over anticipated levels.
4. Develop a ferry park and ride lot in Surry County as conveniently located as possible.

■ 1.3 Planning and Organizational Recommendations

Event Planning

The time required to implement a transportation service, operational improvement or capacity enhancement can be significant. Extensive coordination with partner agencies, the state legislature, and the public is required. More detailed planning, including venue access and traffic and bus operations planning will be necessary. Leasing agreements for buses and parking lots must be arranged. Some construction will be required for parking lots that now occupy vacant land.

Until the events themselves have been finalized, the transportation plan recommendations and associated funding requests described in this document can only reflect an approximation based on the informed opinions of the Jamestown-Yorktown Foundation and others responsible for planning the commemoration. However, because the major events produce impacts that will severely tax the Historic Triangle's transportation system, even a small change in dates, duration, or location will have a major effect on the resources needed (or ability) to provide a well-functioning transportation system.

With this in mind, the following recommendations related to event planning needs should receive immediate attention:

- Establish, with reasonable certainty, the times, dates, locations, activities, and expected attendance levels of all major events for the Jamestown 2007 commemoration by the end of 2002.
- Schedule major events on non-holiday weekends during the spring and fall months to the maximum degree possible.

Advance ticketing for events reduces the uncertainties of crowd and traffic management, and presents valuable marketing opportunities. Advance ticketing provides information on party size and point of origin, which in turn indicates, with some certainty, the location and magnitude of transportation demands. A request for a ticket automatically presents the opportunity to provide information on lodging, transportation alternatives, and other points of interest in the region, which could generate advertising revenues. Moreover, an Internet-based reservations system would reduce transaction costs and provide a very effective means of communicating travel options to prospective visitors.

Joint-ticketing arrangements could be developed between Colonial Williamsburg, the Jamestown Settlement, and the National Park Service as the brokers for package deals including lodging and passes to other regional attractions and the Williamsburg Hotel-Motel Association. These tickets could be obtained through use of the Jamestown 2007, Jamestown-Yorktown Foundation, Colonial Williamsburg, and Colonial National Historical Park web sites, by phone, or by mail.

Thus, an early action event planning activity is to:

- Develop and implement an advance-ticketing program for all major events (preferably an Internet-based system); and
- Develop joint ticketing programs for 2007 special events, combining transportation, lodging, and passes to other regional attractions.

Organizational Structure

The transportation service and event planning activities outlined above will not appear of their own accord. A broadly based planning and implementation process will need to be continued from this date through the completion of the 400th anniversary commemorative activities. To ensure that these technical recommendations are successfully implemented, the establishment of a multilevel planning structure is proposed.

Transportation Coordinator

As planning moves to implementation, transportation logistics and operations should be managed through a single point of coordination. This “point of coordination” could be a single individual, or a small number of individuals, with responsibility for managing the day-to-day transportation needs and operations of Jamestown 2007. Specific responsibilities could include managing the field operations of buses on event days, coordinating emergency and security activities, and overseeing leasing arrangements with bus operators or land holders.

Small Working Groups

The recommendations presented require more in-depth analysis and coordination to support the more detailed budget and staffing requests they will generate. We recommend that the members of the Transportation Logistics Working Group and others nominated

by the group continue to work with the consultant team on the following components of the Jamestown 2007 transportation system. These elements should be considered not only in the context of major event planning as they have here but, just as importantly, in the context of the hundreds of small events that are anticipated to occur throughout the Commonwealth between 2006 and 2007:

- Park and Ride/Park and Walk Lots;
- Local and Intercity Bus and Rail Transit;
- Intelligent Transportation Systems (ITS) and Visitor Information Systems;
- Traffic Control and Operations;
- Transportation Demand Management; and
- Venues and Events Operations.

Transportation Policy Group

In addition to attending to day-to-day technical planning activities, important policy and funding issues will arise. Consideration could be given to the establishment of a Transportation Policy Group that would oversee the activities of the members of the Transportation Logistics Working Group.

The proposed membership of the Transportation Policy Group is as follows:

- The Commissioner of the Virginia Department of Transportation;
- The Director of the Virginia Department of Rail and Public Transportation;
- The Superintendent of the Virginia State Police;
- The Executive Director of the Jamestown-Yorktown Foundation;
- The Superintendent of Colonial National Historical Park;
- The Executive Director of the Association for the Preservation of Virginia Antiquities;
- The Manager of the James City County Transit System;
- The Executive Director, Williamsburg Area Convention and Visitors Bureau;
- The Executive Director of Hampton Roads Transit;
- The Mayor of the city of Williamsburg; and
- The Chairmen of the Boards of Supervisors for James City County and York County.

These individuals, or their designees, would be authorized and directed to provide policy direction for all of the transportation planning and operational aspects of the Jamestown 2007 Commemoration.

- Close coordination and cooperation will also be necessary between the participants on the various transportation sub-working groups and representatives of the recently

established Federal Jamestown 2007 Commemoration Commission. To the degree that permanent and/or temporary staff are assigned to the Federal Commission, they should be considered for representation on the Jamestown 2007 Transportation Working Group, and perhaps even on the Jamestown 2007 Transportation Policy Group.

An important rationale for the Transportation Policy Group and their staffs is to provide continuity of purpose and vision through the political cycles that lie ahead. This is uniquely important in the Commonwealth of Virginia, where the constitutional limitation on gubernatorial succession means that the decisions made by Governor James Gilmore and the Governor elected in November 2001 will set the framework for the actions to be taken by the Governor elected in November 2005. It is this latter Governor whose legacy will be defined by the success of Jamestown 2007.

The principal responsibilities of the Transportation Policy Group will be to ensure that high-level policy and financial decisions are made when they are necessary in order to ensure the success of the transportation elements of Jamestown 2007. This will be particularly important during the two to three years prior to 2007 when the final capital and operating budgets for Jamestown 2007 are being established. If the necessary funds are not allocated at this time, the potential exists for serious mobility problems to be encountered, particularly during the most heavily attended, high-profile events associated with Jamestown 2007.

The members of the Transportation Policy Group will need to maintain close and continuous coordination with the federal, state, and local agencies responsible for the actual implementation and operation of the Jamestown 2007 transportation plan. This will primarily include the Virginia Department of Transportation and the Department of Rail and Public Transportation, the local public transit agencies in the Hampton Roads region, and state and local law enforcement agencies. As was the case in 1957, close ties will also be needed between the Transportation Policy Group and the recently established Jamestown 400th Anniversary Federal Commission and representatives of the U.S. Department of Defense. This coordination function will take place primarily through regularly scheduled meetings of the Transportation Policy Group.

The timing of the meetings of the Transportation Policy Group will vary over time. Initially, during the period 2001-2003, the group will probably need to meet no more frequently than once every four to six months to receive updates from DRPT and VDOT staff on the status of the planning activities. As more detailed project implementation and funding decisions need to be made in 2004 and 2005, the group will probably need to meet on a regular twice-monthly basis. As initial elements of the strategic transportation plan begin to come on line in 2006 and final operational planning takes place, the group will need to meet monthly. During 2007, the frequency of meetings may need to increase to once every two weeks. This would allow for real-time reporting of operational issues and concerns to be presented, with necessary corrective actions identified and implemented as quickly as possible.

At the conclusion of the 400th Anniversary commemoration, the Transportation Policy Group might be assigned a final responsibility to produce what could be termed an "after action report." This would serve to document how well the implementation of the strategic transportation plan accomplished its goals, identify any problems or issues that

were observed and how they were addressed, and outline the protocols by which the transportation elements for the 450th Anniversary commemoration in 2057 might be formulated.

■ 1.4 Estimated Costs

Tables 1.2 to 1.5 present preliminary order-of-magnitude cost estimates for the Jamestown 2007 transportation system. Costs expected to be incurred over the course of the entire year, as well as costs for mid-sized and major events are included. The estimates for the mid-sized and major events assume three of each type of event over the course of the year. These estimates are subject to numerous uncertainties, the most important of which is the disposition of the events themselves. These estimates should thus be considered rough approximations only.

Cost estimates for year-long and small events are shown in Table 1.2. Included in these estimates are costs for the purchase of buses to operate the Colonial Parkway shuttle and expanded shuttle service on U.S. 60. Costs estimates for basic signage are included, as are costs for developing a parking facility near the ferry service in Surry County. Also shown is an estimate for transportation coordination and planning leading up to 2007.

The costs shown do **not** include the salaries and other associated costs for fire, police, and rescue support. Also not included are leasing costs for parking on undeveloped land.

Table 1.2 Estimated Costs for Jamestown 2007: Year-Long/Small Event Transportation System

Service	Description	Estimated Costs
Bus Purchase	Colonial Parkway Service	
	(ATS study: seven buses)	\$2,415,000
	Route 60 Buses (two additional)	\$580,000
Bus Operations	Colonial Parkway Services	\$945,600
	Route 60 Services	\$270,200
Parking	Construction	\$366,800
	Leasing	N/A
	Portable Signs	\$378,800
Other	Planning/Coordination	\$1,200,000
TOTAL		\$6,156,400

Cost estimates for major events are shown in Table 1.3. These estimates describe the increment of funding needed over the basic services to serve major events, and include the cost of leasing and operating all shuttle buses on the Colonial Parkway and U.S. 60. Also included are construction costs for park and ride lots to serve the major events.

**Table 1.3 Estimated Costs for Jamestown 2007 Transportation System:
Three Major Events**

Service	Description	Estimated Costs
Bus Lease and Operations	All Routes	\$606,000
Bus Operations	Dispatch personnel and Supervisors	\$90,000
	Maintenance	\$5,000
Parking	Construction	\$1,200,000
Traffic Operations	Portable Signs	\$6,000
TOTAL		\$1,907,000

Cost estimates for mid-sized events are shown in Table 1.4. The cost estimates assume three relatively well attended events (13,000), and describe the increment of funding needed over the basic services to serve them. These estimates include the cost of leasing and operating all shuttle buses on the Colonial Parkway and U.S. 60.

**Table 1.4 Estimated Costs for Jamestown 2007 Transportation System:
Three Mid-Sized Events**

Service	Description	Estimated Capital and Operating Costs
Bus Lease and Operations	All routes	\$334,000
Bus Operations	Dispatch personnel and Supervisors	\$45,000
	Maintenance	\$3,000
Parking	Lease	\$30,000
	Construction	\$763,500
Other	Police/Fire Support	N/A
Traffic Operations	Portable Signs	\$6,000
TOTAL		\$1,181,500

All costs are combined in Table 1.5 below.

**Table 1.5 Estimated Costs for Jamestown 2007 Transportation System:
Summary**

Service	Year-Long	Mid-Sized	Major	Total
Bus Purchase	\$2,995,000			\$2,995,000
Bus Lease and Operations	\$1,215,800	\$382,000	\$701,000	\$2,298,800
Portable Signs	\$378,800	\$6,000	\$6,000	\$390,800
Parking	\$366,800	\$793,500	\$1,200,000	\$2,360,300
Planning and Coordination	\$1,200,000			\$1,200,000
TOTALS	\$6,156,400	\$1,181,500	\$1,907,000	\$9,244,900

Finally, Table 1.6 below presents the distribution of estimated costs by year. Capital expenditures for bus purchases corresponding to transportation plans for James City County and the Colonial Parkway begin in 2004. With the exception of funding for continued planning and coordination, most other costs are incurred in 2006 or 2007.

**Table 1.6 Estimated Costs for Jamestown 2007 Transportation System:
Summary by Year**

Service	2002	2003	2004	2005	2006	2007
Bus Purchase			\$580,000	\$1,500,000		\$915,000
Bus Lease and Operations					\$919,520	\$1,379,280
Portable Signs						\$390,800
Parking					\$2,360,300	
Planning and Coordination	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$450,000
TOTALS	\$250,000	\$250,000	\$830,000	\$1,750,000	\$3,529,820	\$3,135,080

■ 1.5 Next Steps

In order to successfully provide for the recommended elements of the Jamestown 2007 Transportation Plan, a number of additional plan refinement and detailing activities will need to be completed over the next several years. These include the following:

- Facilitate Transportation Logistics Working Group Meetings;
- Conduct continuing outreach meetings with potential Jamestown 2007 partners, including HRT, and HRPDC, and agencies responsible for traffic operations;
- Coordinate with Jamestown/Yorktown Foundation, NPS, and APVA to develop an event itinerary for Jamestown 2007;
- Develop initial operations plans for event and venue-specific transportation services;
- Develop a more detailed traffic operations/management plan for the overall Historic Triangle Area;
- Develop a traveler information and regional visitor information plan;
- Develop detailed venue access plans for the Jamestown Settlement, Jamestown Island, and Yorktown Battlefield;
- Develop a detailed parking plan, particularly including the location and operation of regional park and ride lots;
- Develop detailed capital and operating cost estimates for 2007 transportation plan;
- Develop a detailed operations and circulation plan for the Island and the Settlement, potentially using simulation tools to develop bus staging plans, which should include a detailed analysis of the Parkway as a bus-only facility for major events;
- Develop a detailed traffic circulation plan to protect neighborhoods; and
- Initiate a detailed traffic analysis of the Route 60 Corridor.